

REMARKS

Claims 3-12, 21, 22, as amended, remain herein. Claims 13-20, 23 and 24 remain herein but are presently withdrawn from consideration.

Claims 3-12, 21, 22 have been amended to recite more clearly applicants' invention.

Claim 3 also has been amended (referring to Fig. 11) to recite means 54 for measuring the value of a current flowing between an electrode 65 and a reversed polarity electrode plate 61. This makes possible detection of pinholes, as described in the specification at page 41, line 23 to page 42, line 2, in addition to the remaining recitation of claim 3 directed to repair of such pinholes.

1. Objections were stated to the drawings. Submitted herewith are Figures 3 -5 and 10 revised to include the Prior Art label, and Figure 17 revised to correct a spelling error. Withdrawal of the objection to the drawings is respectfully requested.

2. The Abstract has been amended.

3. The specification has been amended, thereby mooting the objections thereto.

4. Claims 4-10, 12, 21 and 22 were rejected under 35 U.S.C. §112, second paragraph. Generally, the term "box-like" has been replaced with "box-shaped" and "frame-like" with "frame-shaped", and the phrases "or according to a specified rule", "such as", and the word "type" have been deleted.

Reconsideration and withdrawal of the rejection are respectfully requested.

5. Claims 3, 4, 6-8 and 21 were rejected under 35 U.S.C. §102(e) over Ting et al. U.S. Patent 6,017,437.

The presently claimed invention comprises an in-substrate selective electrochemical treatment system for finding and repairing pinholes in an active substrate; i.e., the system enables detection of pinholes and repair of a substrate by use of the same system, as disclosed in the Fifth Embodiment, see specification at page 48, beginning at line 21. This arrangement and corresponding method are nowhere disclosed or suggested in the cited reference.

The Office Action cites Ting '437 as allegedly disclosing forming a chamber over one region of a substrate having an associated conductive pattern. But, Ting '437 does not disclose a system for accomplishing both detection and repair on an active substrate. Ting '437, column 3, lines 36-61, discloses a technique for depositing and/or removing metal material onto/from a wafer, but does not mention anything about such repair system also having structure for finding pinholes. Thus, Ting '437 does not disclose a system having structural components, or method steps, for accomplishing both detection and repair of pinholes in an active substrate, as recited in applicants' claims.

For the foregoing reasons, Ting '437 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Ting '437 that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 4, 6-8 and 21, which depend from claim 3, are allowable for the same reasons described herein for claim 3. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

6. Claims 3-7 and 21 were rejected under 35 U.S.C. §102(e) over Talieh U.S. Patent 6,176,992.

The Office Action cites Talieh '992 as allegedly disclosing polishing pad 32 containing electrolyte, arranged to rotate against the entire wafer. But, Talieh '992 does not disclose a system for accomplishing both detection and repair on an active substrate. Talieh '992, see columns 4-9, describing Figs. 1-12, is directed only to repair of a substrate, and columns 4-9 do not mention anything about such repair system also having structure for finding pinholes. Thus, Talieh '992 does not disclose a system having structural components, or method steps, for accomplishing both detection and repair of pinholes on an active substrate, as recited in applicants' claims.

For the foregoing reasons, Talieh '992 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Talieh '992 that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 7-21, which depend from claim 3,

are allowable for the same reasons described herein for claim 3. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

7. Claims 3, 7 and 21 were rejected under 35 U.S.C. §102(e) over Batz, Jr., et al. U.S. Patent 6,334,937.

The Office Action cites Batz '937 as allegedly disclosing polishing pad 32 containing electrolyte, arranged to rotate against the entire wafer. But, Batz '937 does not disclose a system for accomplishing both detection and repair on an active substrate. Batz '937, columns 4-18, describing Figs. 1-26, is directed only to repair of a substrate, and columns 4-18 do not mention anything about such repair system also having structure for finding pinholes. Thus, Batz '937 does not disclose a system having structural components, or method steps, for accomplishing both detection and repair of pinholes on an active substrate, as recited in applicants' claims.

For the foregoing reasons, Batz '937 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Batz '937 that would have suggested the desirability of modifying any portions thereof

effectively to anticipate or suggest applicants' presently claimed invention. Claims 7-21, which depend from claim 3, are allowable for the same reasons described herein for claim 3. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

8. Claim 9 was rejected under 35 U.S.C. §103(a) over Ting '437 and Icxix et al. U.S. Patent 3,637,468; claim 10 was rejected under 35 U.S.C. §103(a) over Ting '437 and Batz '937; claims 11, 12 and 22 were rejected under 35 U.S.C. §103(a) over Ting '437.

The arguments herein for patentability of claim 3 also apply to claims 9 and 10-12, which depend from claim 3. Neither Icxix '468 or Batz '937 provide the deficiencies of Ting '437 discussed herein.

Moreover, while Ting '437 discloses an electrochemical processing apparatus, the presently claimed invention recited in claim 22, and corresponding to applicants' Eighth Embodiment, see specification page 51, beginning at line 21, is directed to chemical treatment without using electrochemical means. Ting '437 does not disclose or suggest

anything about a chemical treatment without using electrochemical means in an in-substrate process.

For the foregoing reasons, none of Ting '437, Icxi '468 or Batz '937 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in any of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 9 and 10-12, which depend from claim 3, are allowable for the same reasons described herein for claim 3. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

9. Claim 9 was rejected under 35 U.S.C. §103(a) over Talieh '992 and Icxi '468, claim 10 was rejected under 35 U.S.C. §103(a) over Talieh '992 and Batz '937, and claims 11 and 12 were rejected under 35 U.S.C. §103(a) over Talieh '992.

The arguments herein for patentability of claim 3 also apply to claims 9-12, which depend from claim 3. Neither Icxi '468 or Batz '937 provide the deficiencies of Talieh '992 discussed herein.

For the foregoing reasons, none of Talieh '992, Icxi '468 or Batz '937 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in any of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

10. Claims 11 and 12 were rejected under 35 U.S.C. §103(a) over Batz '937.

The arguments herein for patentability of claim 3 also apply to claims 11 and 12, which depend from claim 3. Batz '937, is directed to repair of a substrate, and does not mention anything about such repair system also having structure for finding pinholes. Thus, Batz '937 does not disclose a system having structural components, or method steps, for accomplishing both detection and repair of pinholes on an active substrate, as recited in applicants' claims.

Serial No.: 09/868,577

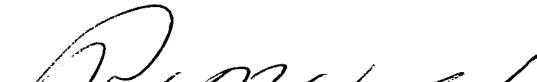
All claims 3-12, 21, 22 are now proper in form and patentably distinguished over all grounds of rejection cited in the Office Action. Accordingly, allowance of all claims 3-12, 21, 22 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P.

February 25, 2004
Date



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RWP:RNW/mhs

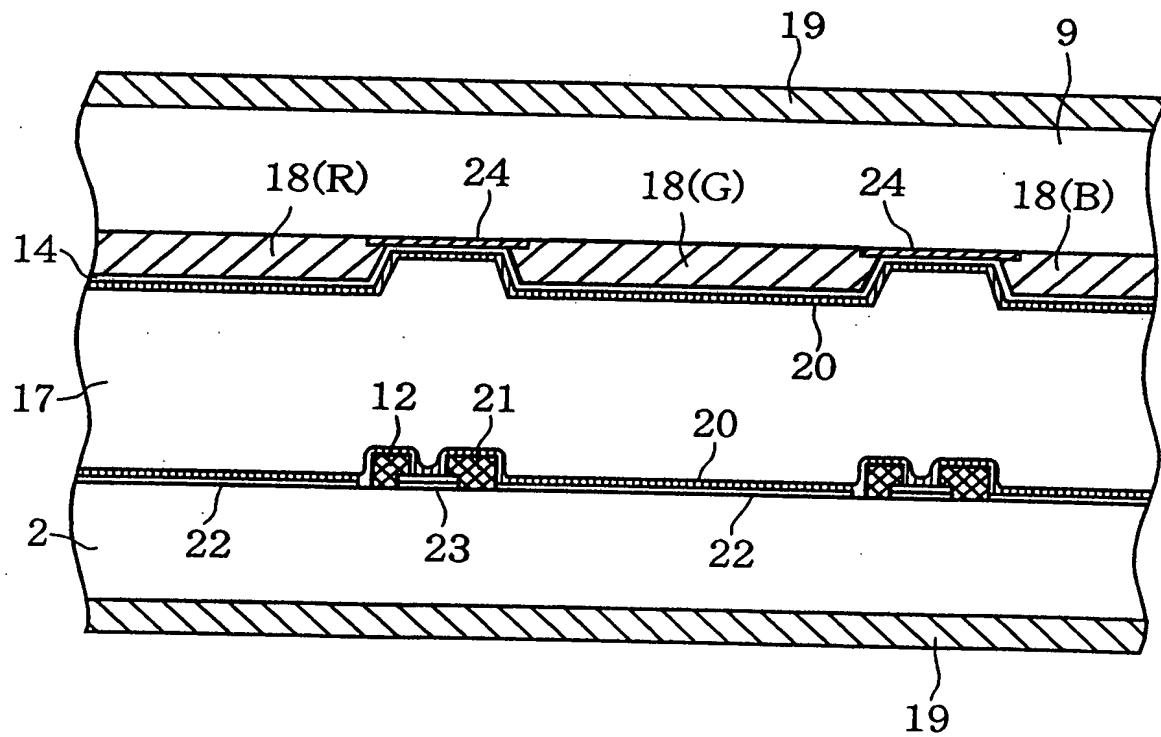
Attachments: 5 Annotated Sheets Showing Changes for
Figs. 3-5, 10 and 17
5 Replacement Sheets for Figs. 3-5, 10 and 17

Attorney Docket No.: OGOH:083

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Fig. 3
PRIOR ART



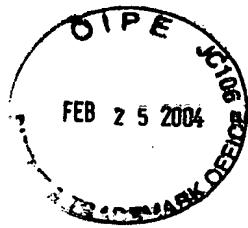


Fig. 4
PRIOR ART

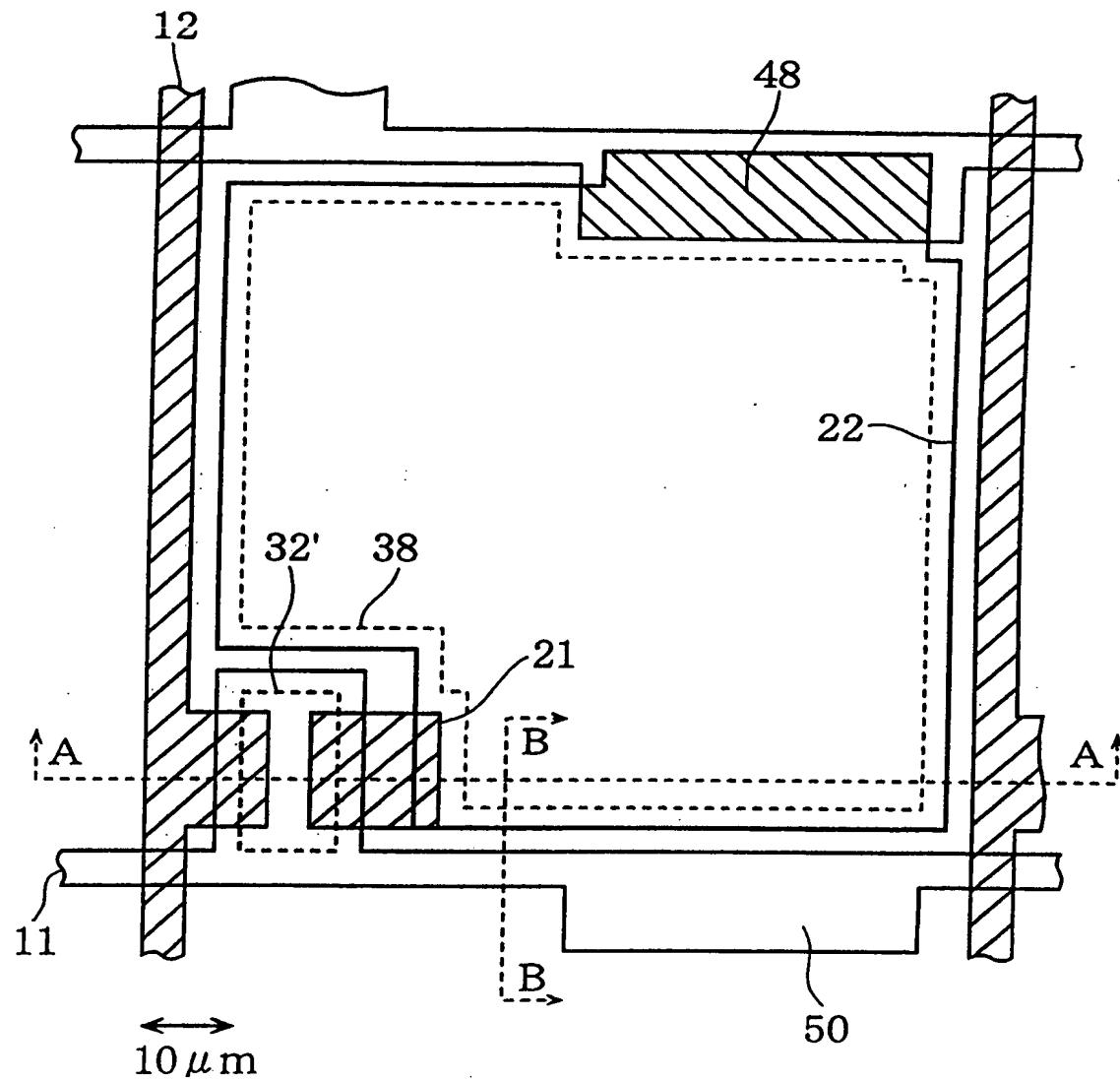
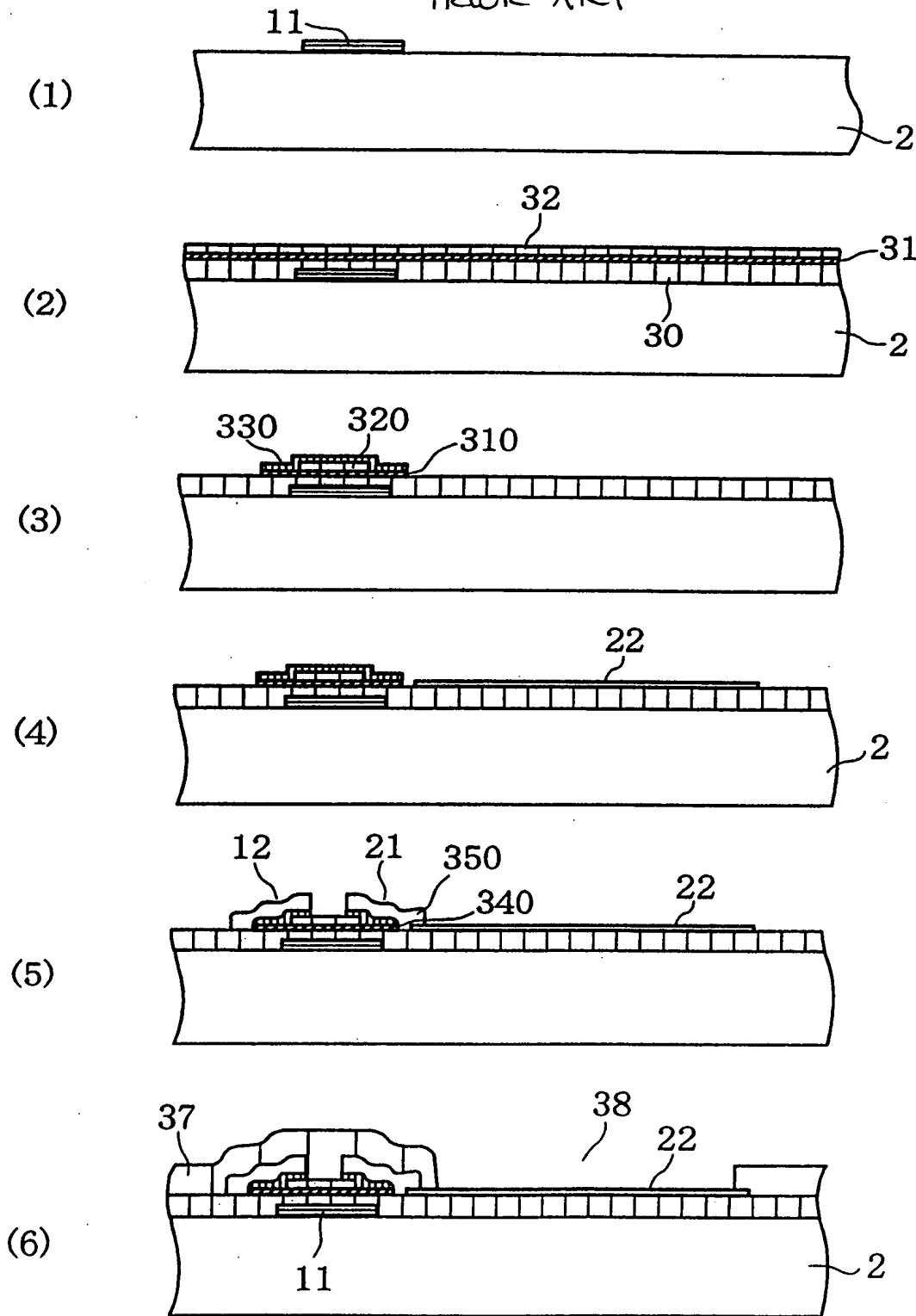


Fig. 5
PRIOR ART

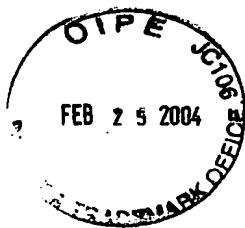


Fig. 10
PRIOR ART

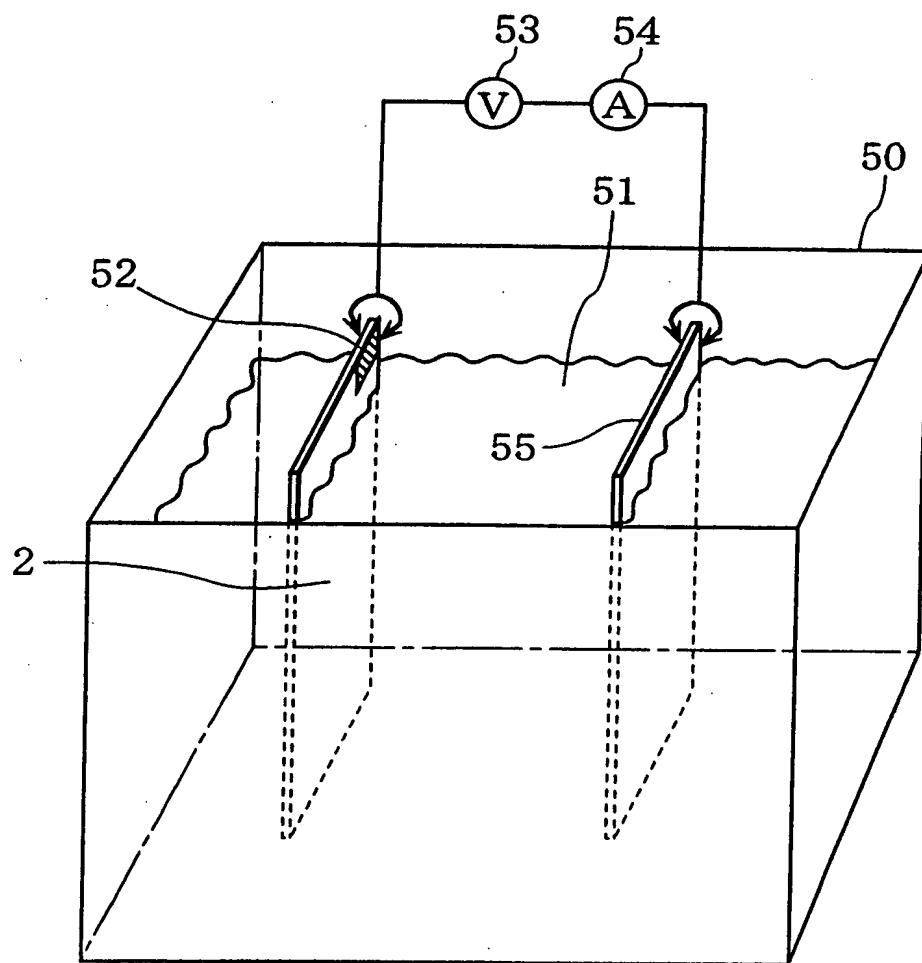




Fig. 17

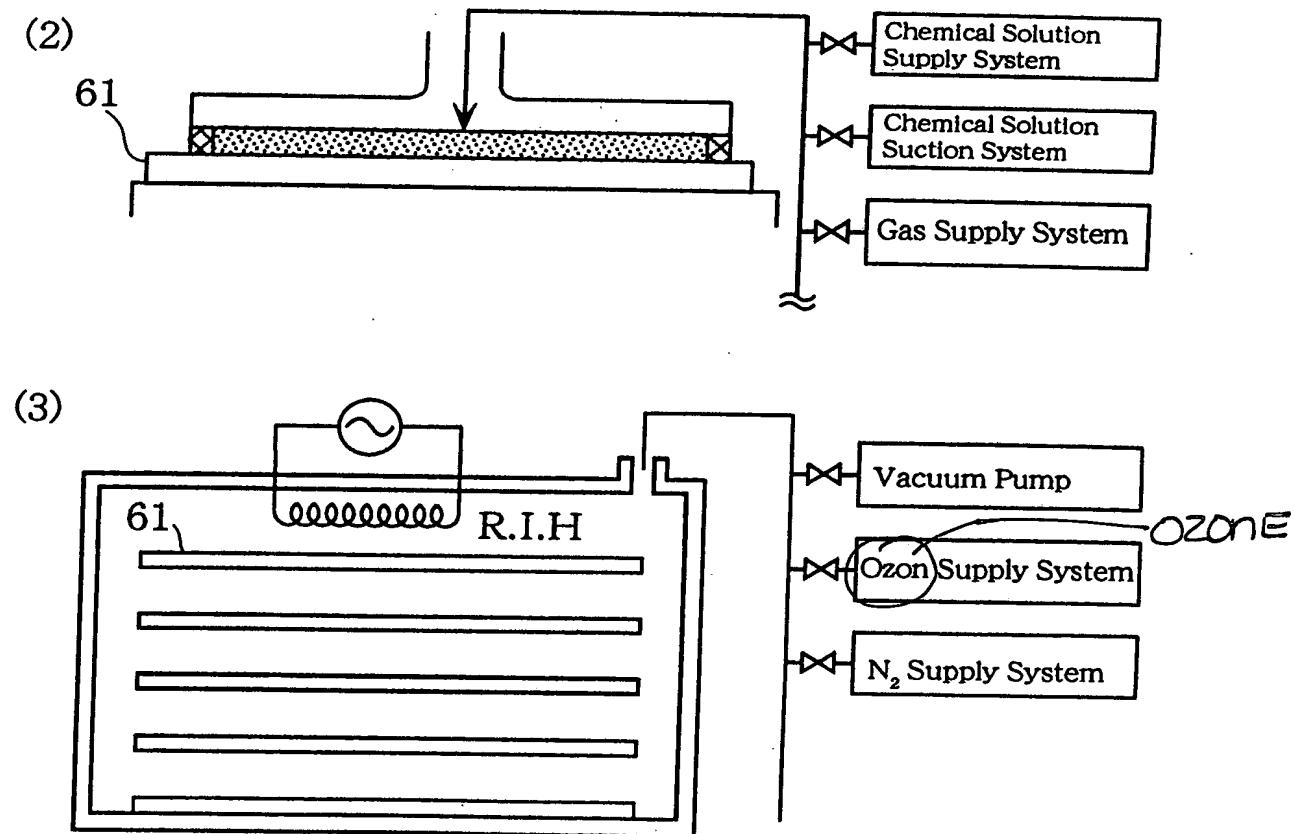
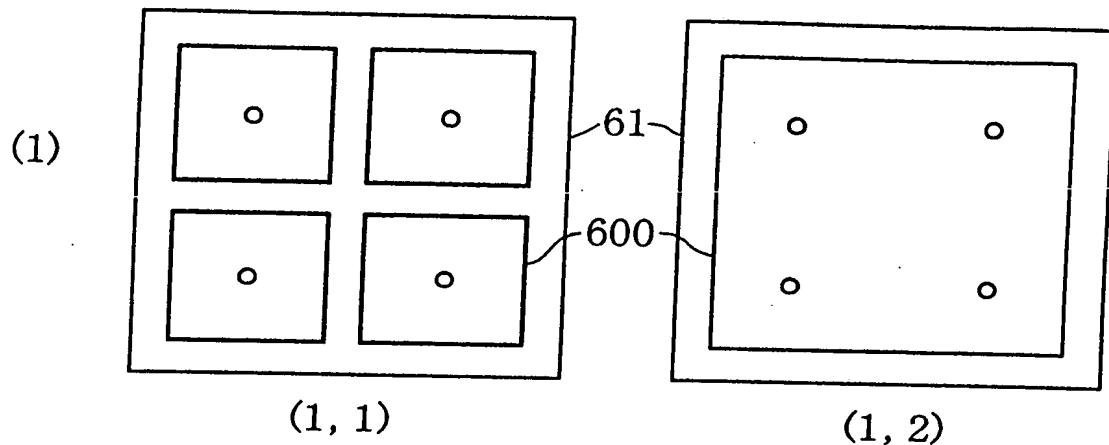




Fig. 3
Prior Art

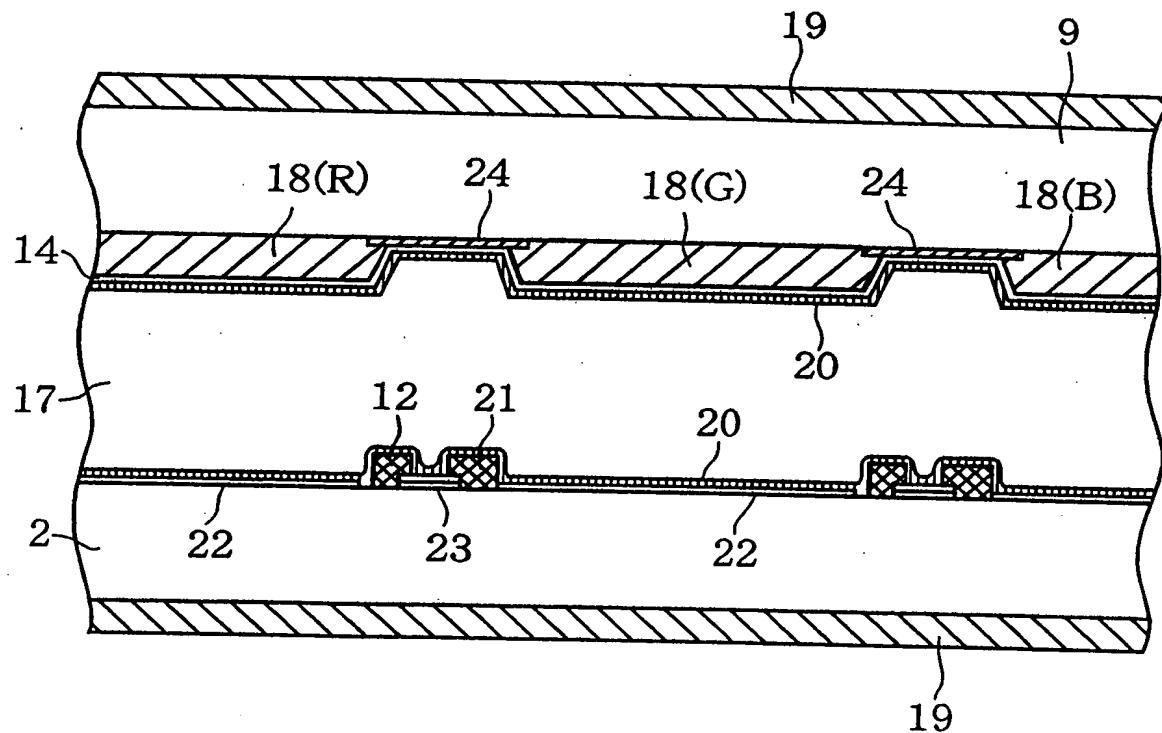




Fig. 4
Prior Art

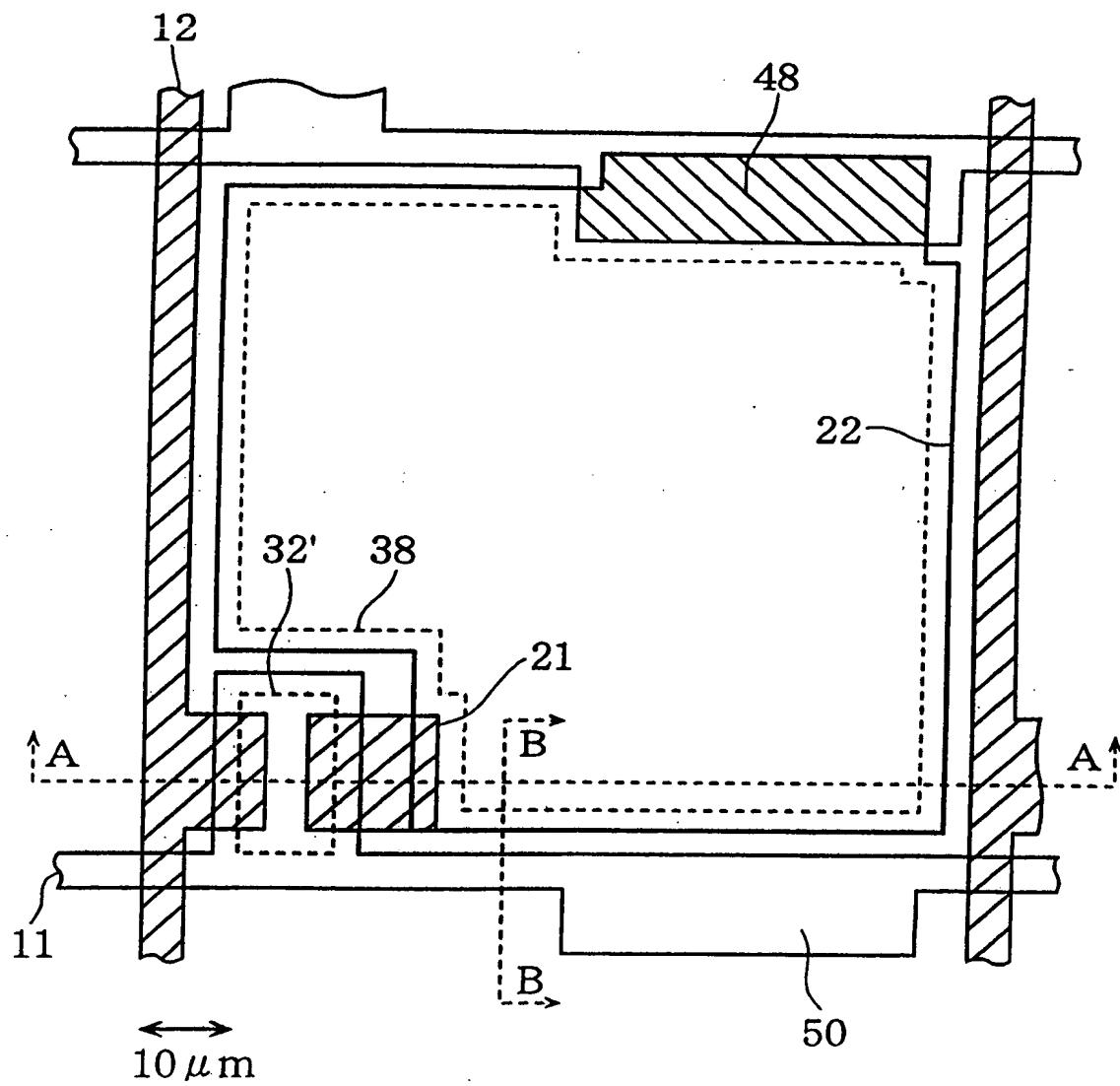




Fig. 5
Prior Art

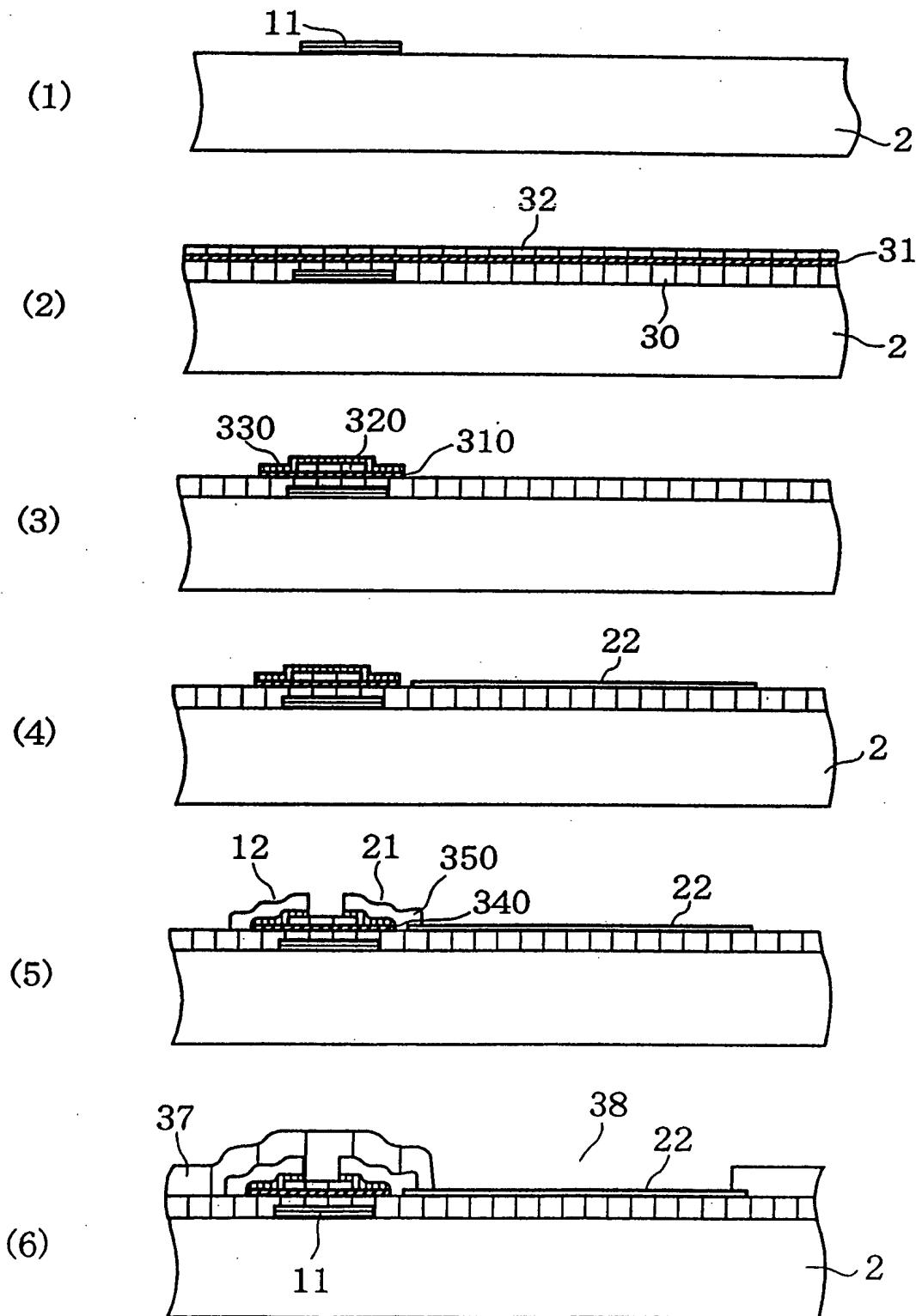




Fig. 10
Prior Art

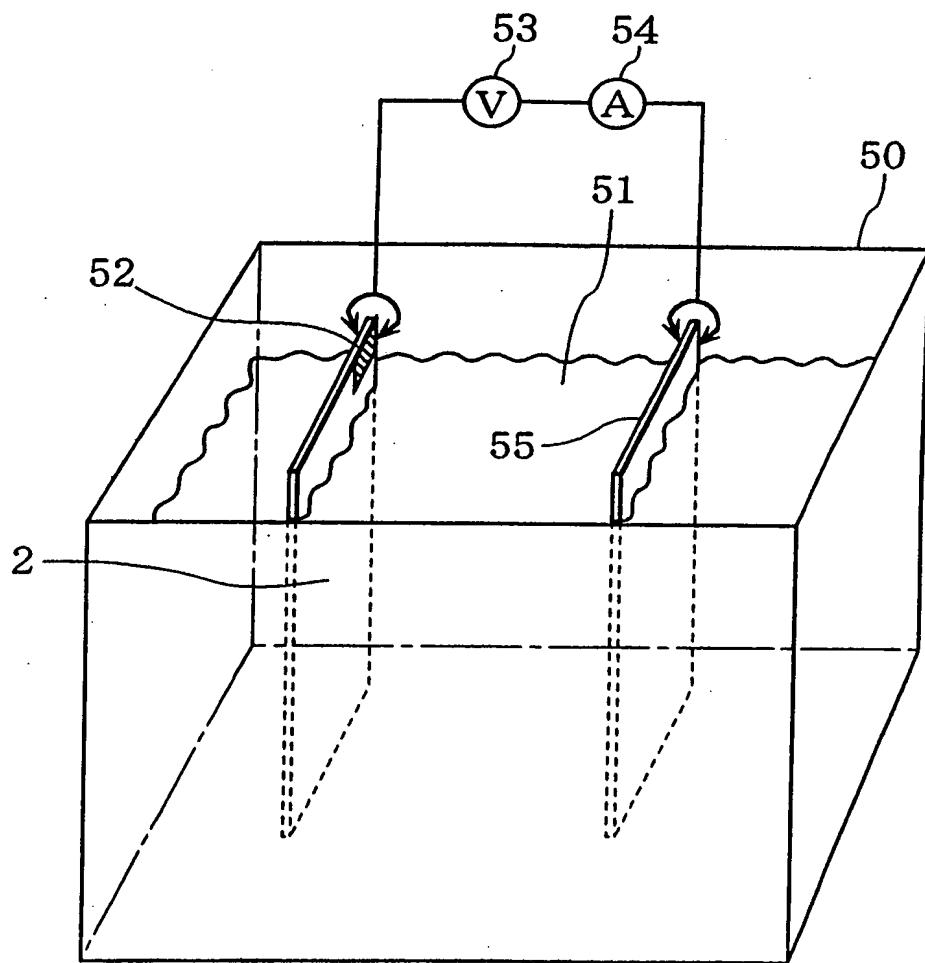




Fig. 17

